Fish Quality Index

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The primary route of exposure to many persistent bioaccumulating toxins (PBT) such as methyl mercury, PCBs, or dioxins is through foods. Many people, but particularly subsistence fishermen, pregnant women and children, are at high risk for methyl mercury toxicity because of their consumption of contaminated fish. Often health risks of PBT are underestimated because their amplification in the food chain results in toxicity, even though ambient levels of these PBT in lakes and streams are within acceptable limits. Two concerns have developed from this situation: many of the affected groups have not been targeted, and a means of effectively communicating the possible risk to the affected groups does not readily exist. We are working to address these concerns by increasingly defining regions and specific lakes and streams that have high levels of consumption of native fish, and where high mercury or other PBT concentrations in water can occur. This effort also includes additional compilation of mercury or other PBT concentrations from water bodies and fish that inhabit these lakes and rivers from historical data, or from data that has been recently collected, particularly by the Office of Water. The final product will be a user-friendly risk communication tool (the Fish Quality Index), which is a color-coded pictogram for various fish species (for example, green fish are safe to eat even at subsistence consumption levels, yellow fish are safe once a month, while red ones are safe only if eaten less than once a year). This map-based tool transcends language and literacy boundaries and should inform anglers of the relative health risks according to the species of fish that they regularly consume in an easy-to-understand format. It has the benefit of steering people toward safer lakes and streams and safer species of fish. In most lakes we've examined, there are safe species of fish and unsafe species of fish in the same lake, depending mostly on the trophic level of the fish's food supply. A pilot of the fish quality index has been developed for several New England States and is currently being tested by several groups. A demonstration of the software will be featured at the presentation.

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